

## **REMARKS**

Claims 1-17 are pending in this application. By this Amendment, claim 1 has been amended. Support for the amendments can be found throughout the specification as filed. No new matter is added.

### **The Claimed Invention**

The present claim 1 is directed to a thermoprocessable polymeric composition comprising ECTFE ethylene/chlorotrifluoroethylene copolymers consisting of ethylene and chlorotrifluoroethylene monomers and containing from 0.5-20% by moles of ethylene, optionally in combination with chlorotrifluoroethylene homopolymer, where the composition contains in total from 90%-99.5% by moles of chlorotrifluoroethylene and from 0.5 to 10% by moles of ethylene. The polymeric composition has a second melting temperature higher than 185°C.

The polymeric composition of the presently-claimed invention solves the technical problem of providing a polymer that possesses the same good electrical insulation properties of PCTFE, while avoiding the brittle behavior of PCTFE (see page 2 of the specification, and compare Example 4 with Comparative Example 5).

The presently-claimed composition containing E and CTFE unexpectedly shows such electrical insulation properties, *i.e.*,  $\tan\delta$  values, and exhibits similar electrical behavior as PCTFE (a homopolymer of CTFE) which does not contain E, as compared to the electrical behavior of conventional ECTFE copolymers such as the commercially-

available Halar (see the  $\tan\delta$  values set forth in Table 5 of the present specification, at page 29).

**Rejection under 35 U.S.C. § 102(b)**

The Office Action rejected claims 1 and 13 under 35 U.S.C. § 102(b) as allegedly being anticipated Abusleme et al. (U.S. Patent No. 6,107,393) or Zolotnitsky et al. (U.S. Published Application No. 2001/0003124). This rejection is respectfully traversed.

Abusleme et al. discloses a polymer of E/CTFE/hydrogenated monomer, wherein the amount of E is at least 10% by moles. The polymer can be admixed with hydrogenated plasticizers because the hydrogenated monomer improves the affinity with hydrogenated plasticizers. See col. 4, lines 55-57.

Zolotnitsky et al. discloses the E/CTFE/hydrogenated monomer terpolymer of Abusleme et al., as well as specific compositions thereof containing plasticizers and a low smoke releasing flame retardant.

Abusleme et al. fails to anticipate the presently-claimed compositions, at least for the reason that the polymers of Abusleme et al. contain at least 10% by moles of E and a third hydrogenated monomer. The presently-claimed composition is formed by one or more ECTFE copolymers not containing any third hydrogenated comonomer in addition to the E and CTFE monomers.

Zolotnitsky et al. also fails to anticipate the presently-claimed compositions, because Zolotnitsky et al. is directed to the same polymers as Abusleme et al., where the polymers further contain plasticizers and flame retardant.

Accordingly, because neither of Abusleme et al. or Zolotnisky et al. discloses the ECTFE copolymers of the presently claimed invention, Applicants respectfully request that the outstanding rejection under 35 U.S.C. § 102(b) be withdrawn.

**Rejection under 35 U.S.C. § 103(a)**

The Office Action also rejected claims 2-3 and 14-15 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Abusleme et al. and Zolotnisky et al. Claim 4 as rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Abusleme et al. and Zolotnisky et al., further in combination with The Encyclopedia of Polymer Science and Engineering Additives. Claims 5-11 and 16-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Abusleme et al. or Zolotnisky et al., in combination with The Encyclopedia of Polymer Science and Engineering Additives and Perelman (U.S. Pat. No. 4,304,713) or Buckmaster et al. (U.S. Pat. No. 5,688,457). These rejections are respectfully traversed.

The deficiencies of Abusleme et al. and Zolotnisky et al. with respect to the presently-claimed invention are discussed above. Further, Applicants submit that Abusleme et al. and Zolotnisky et al. are directed to solving the problem of finding a fluoropolymer having improved affinity for hydrogenated plasticizers. They solve this technical problem by using ECTFE polymers that formed from E and CTFE monomers, as well as a third hydrogenated monomer.

Thus, Applicants submit that there is no disclosure or suggestion in either Abusleme et al. and Zolotnisky et al. that would motivate one skilled in the art to modify the polymers of Abusleme et al. and Zolotnisky et al. in order to arrive at the polymers

of the presently-claimed invention, which possess electrical properties that are similar to those of the homopolymer PCTFE, but which do not exhibit the brittle behavior attributed to PCTFE homopolymers.

Indeed, the combination of Abusleme et al. and Zolotnisky et al. disclose forming cables by using a terpolymer containing E/CTFE/hydrogenated monomer in admixture with other components such as plasticizers. However, Abusleme et al. and Zolotnisky et al., taken alone or in combination, fail to disclose or suggest a composition containing E in a total amount of 0.5-10% by moles, while the remaining part to 100 is CTFE. Abusleme et al. and Zolotnisky et al. also fail to disclose or suggest that the composition is formed by one or more ECTFE polymers having molar % of E in the % of E in the range of 0.5-20%.

The secondary references, i.e., The Encyclopedia of Polymer Science and Engineering Additives, Perlman, and Buckmaster et al., all fail to remedy the deficiencies of Abusleme et al. and Zolotnisky et al.

Perelman discloses a foamable composition of a meltable perfluorocarbon (FEP), PTFE as a nucleating agent, and a blowing agent that is not present in Applicants' composition. It is noted that FEP does not encompass the present ECTFE polymers.

Buckmaster discloses a process for extruding a thermoprocessable polymer, which includes a nucleating agent for improving the extrusion rate while producing an unfoamed product: no blowing agent is employed.

The secondary references do not add anything to the teachings of Abusleme et al. and Zolotnisky et al. that would lead those skilled in the art to arrive at the present foamable compositions comprising the polymeric composition of claim 1.

Furthermore, Applicants submit that the compositions of the dependent claims are also patentable for the same reasons that the composition of claim 1 is patentable, as well as for the additional features set forth therein.

Accordingly, Applicants submit that the presently-claimed invention is patentable over Abusleme et al. and Zolotnisky et al., further in view of any or all of The Encyclopedia of Polymer Science and Engineering Additives, Perlman, and Buckmaster et al. Applicants therefore respectfully request that the outstanding rejections under 35 U.S.C. § 103(a) be withdrawn.

#### **Additional Features of the Presently-Claimed Invention**

An unexpected feature achieved by the polymeric composition of the presently-claimed invention is that when a nucleating agent (such as PTFE) is also provided, the composition is foamable during extrusion without using any additional foaming agents or blowing gases. Such agents are normally required in the prior art in order to create voids.

Indeed, the compositions of claim 5 are foamable in the presence of PTFE, in absence of any foaming agents or blowing gases.

This is in contrast to the teachings of the prior art, for example U.S. Patent No. 4,304,713 (Perelman), which teaches that nucleating agents were always used in combination with foaming agents or blowing gases. In fact, U.S. Patent No. 5,688,457 (Buckmaster, see col.2, line 4) teaches forming unfoamed extrudates in the absence of

foaming agents or blowing gases. Those skilled in the art would not expect to attain the unexpected benefits of producing foamed articles in the presence of nucleating agents, but without using any foaming agents, as are achieved in the presently-claimed invention.

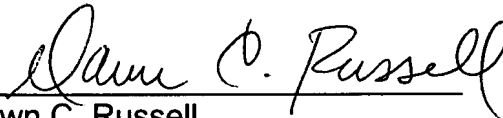
Accordingly, Applicants submit that the composition of the presently-claimed invention provides benefits and features not exhibited by the prior art, and respectfully requests that these secondary benefits be considered, as they support the patentability of the claimed-invention.

### **CONCLUSION**

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300, referring to client-matter number 108910-00128.

Respectfully submitted,

  
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